

THE PERSON IDENTIFIED BELOW IS DESIGNATED AS THE RESPONSIBLE LAND DISTURBER WHO WILL BE IN CHARGE OF AND RESPONSIBLE FOR CARRYING OUT THE LAND DISTURBING ACTIVITY ASSOCIATED WITH THIS PROJECT. THE PERSON MEETS THE APPLICABLE REQUIREMENTS OF VIRGINIA CODE SECTION 10.1-563 AND 10.1-566 BY VIRTUE OF THE FOLLOWING:

_____ RESPONSIBLE LAND DISTURBER CERTIFICATE

_____ DCR CERTIFICATION FOR COMBINED ADMINISTRATOR, ADMINISTRATOR, PLAN REVIEWER, INSPECTOR, OR CONTRACTOR.

 X VIRGINIA PROFESSIONAL ENGINEER, LAND SURVEYOR, LANDSCAPE ARCHITECT, OR ARCHITECT

RESPONSIBLE LAND DISTURBER CONTACT INFORMATION:

NAME (SIGNATURE): _____

NAME (PRINT): KENNETH H TURNER

CERTIFICATION/REGISTRATION NUMBER: RLD # 0402-21260

COMPANY: TIMMONS GROUP

MAILING ADDRESS: 2901 S. LYNNHAVEN ROAD SUITE 200
VIRGINIA BEACH, VIRGINIA 23452

TELEPHONE (757) 213-6671

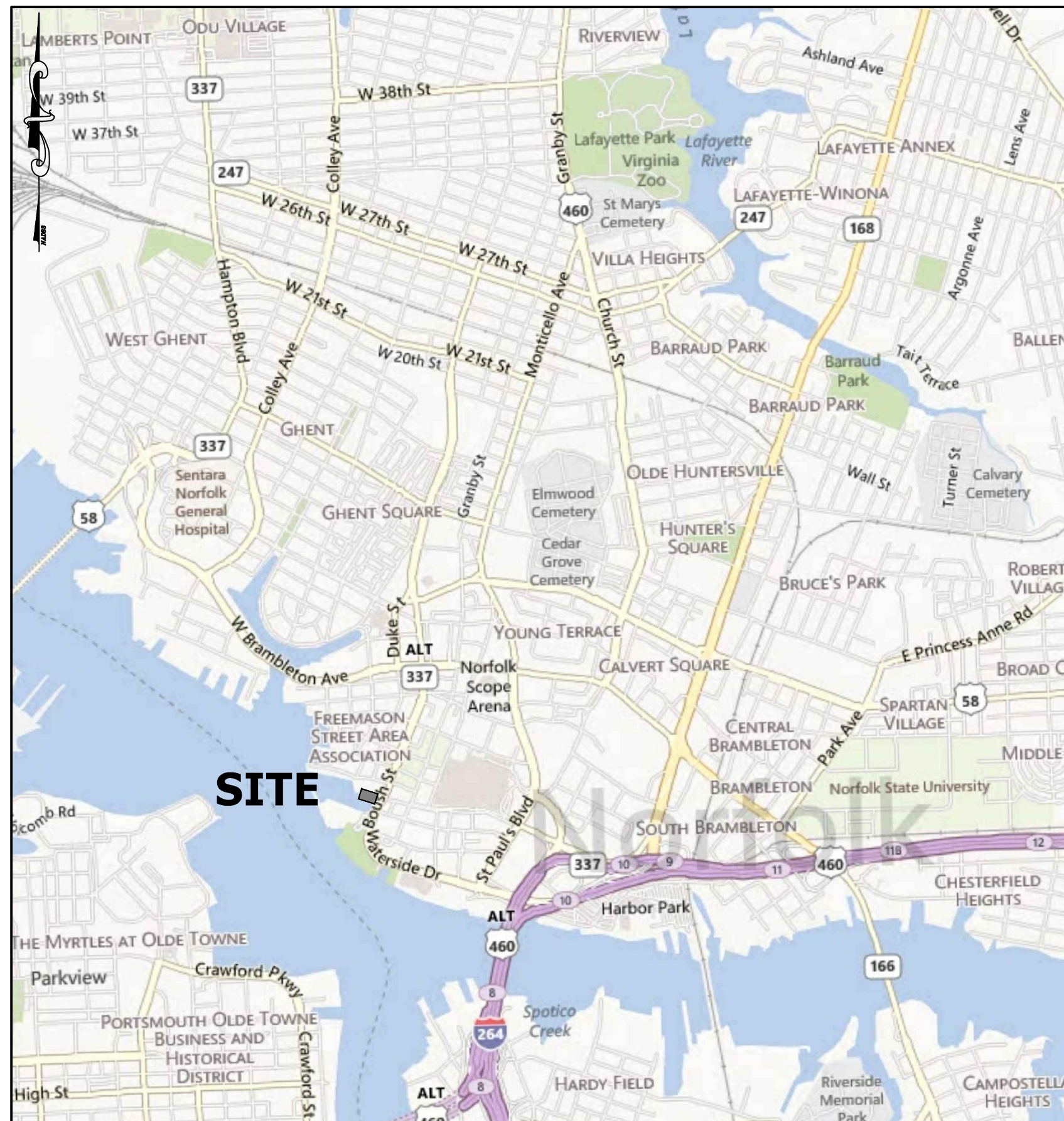
THIS DESIGNATION MAY ONLY BE CHANGED BY A PLAN COVER SHEET REVISION THAT MUST BE SUBMITTED TO THE CITY FOR VERIFICATION AND APPROVAL. THE DEPARTMENT OF PUBLIC WORKS/ENGINEERING MUST BE CONTACTED AT LEAST 48 HOURS PRIOR TO MEETING. PLEASE CALL (757) 664-4600

THE CONTRACTOR SHALL PROVIDE WRITTEN NOTIFICATION TO ALL PROPERTY OWNERS AND RESIDENTS OF PROPERTY ADJACENT TO THE DEVELOPMENT OR OFFSITE IMPROVEMENTS, 30 DAYS PRIOR TO THE COMMENCEMENT OF WORK UNLESS OTHERWISE DIRECTED BY THE CITY. CONSTRUCTION WITHIN EASEMENTS OR ON PUBLIC RIGHT-OF-WAY NECESSITATES NOTICE WHETHER ADJACENT TO OR LOCATED ON THE ADJOINING PROPERTY. FAILURE TO PROVIDE THE MINIMUM NOTIFICATION TIME WILL RESULT IN A SUSPENSION OF WORK.

<u>WATER COMPANY</u>	<u>POWER COMPANY</u>	<u>PUBLIC UTILITY</u>
CITY OF NORFOLK UTILITIES P.O. BOX 1080 NORFOLK, VIRGINIA 23501 CONTACT: DAVID SPEER, P.E. TEL: (757) 664-8701 FAX: (757) 664-6739	DOMINION VIRGINIA POWER 1601 HAMILTON AVE. PORTSMOUTH, VA 23707 PHONE:(757) 393-3824 (WORK) PHONE:(757) 434-3703 (CELL) CONTACT: GAYLENE W. WATSON TEL: (757) 664-6707	CITY OF NORFOLK UTILITIES P.O. BOX 1080 NORFOLK, VIRGINIA 23501 CONTACT: DAVID SPEER, P.E. TEL: (757) 664-8701 FAX: (757) 664-6707
<u>NATURAL GAS COMPANY</u>	<u>TELEPHONE COMPANY</u>	<u>PUBLIC TRANSPORTATION</u>
VIRGINIA NATURAL GAS 5100 E. VIRGINIA BEACH BLVD. NORFOLK, VA 23502 TEL: (757) 466-5525 FAX: (757) 466-5514 CONTACT: JOSEPH SIMONS	VERIZON 5701 CLEVELAND ST. NORFOLK, VA 23504 TEL: (757) 875-2541 CONTACT: CARLTON HENERY	HAMPTON ROADS TRANSIT 509 EAST 18th STREET, BLDG 4 NORFOLK, VA 23504 (757) 222-6000 EXT. 8018 CONTACT: DON LINT DIRECTOR OF CONSTRUCTION
<u>LOCAL ENGINEERING OFFICE</u>	<u>CABLE COMPANY</u>	<u>NORFOLK SMART TRAFFIC CENTER</u>
CITY OF NORFOLK PUBLIC WORKS 810 UNION ST. ROOM 700 NORFOLK, VIRGINIA 23510 TEL: (757) 664-4602 FAX: (757) 664-4603	COX COMMUNICATIONS 5200 CLEVELAND STREET VIRGINIA BEACH, VA 23462 (757) 435-5245 CONTACT: DEMETRIUS IDLETT	CITY OF NORFOLK TRANSPORTATION DIVISION 810 UNION ST. ROOM 200 NORFOLK, VIRGINIA 23510 CONTACT: DANIEL RYDZEWSKI TEL: (757) 664-7304 FAX: (757) 664-7311

FOR ALL SITES 1 ACRE OR GREATER, OR GREATER THAN 2,500 SQUARE FEET IN THE CBPA, CONTACT THE VIRGINIA DEPARTMENT OF CONSERVATION AND RECREATION AT (804) 225-2613 TO OBTAIN A VSMP CONSTRUCTION PERMIT.

**NORFOLK, VIRGINIA
FEBRUARY 1, 2016**



PRIOR TO CONSTRUCTION,
CONTRACTOR SHALL CALL
"MISS UTILITY" OF VIRGINIA
DIAL - 811
FOR LOCATION OF UNDERGROUND UTILITIES

SHEET INDEX	
NUMBER	TITLE
C-001	COVER SHEET
C-002	NOTES
C-101	SITE LAYOUT
E1	ELECTRICAL NOTES, LEGEND AND DETAILS
ED1	ELECTRICAL DEMOLITION PLAN
E2	ELECTRICAL NEW WORK PLAN
E3	ONE-LINE DIAGRAM

TIMMONS GROUP
2901 S. LYNNHAVEN ROAD, SUITE 200
VIRGINIA BEACH, VIRGINIA 23452
PHONE: (757) 213-6671
FAX: (757) 340-1415
CONTACT: KEN TURNER, P.E.

CITY OF NORFOLK
DEPARTMENT OF PUBLIC WORKS
STORMWATER DIVISION
2233 McKANN AVENUE
NORFOLK, VIRGINIA 23509
PHONE: (757) 823-4000
FAX: (757) 441 2402
CONTACT: REY HERNANDEZ, P.E.

BID SET



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YOUR VISION ACHIEVED THROUGH OURS.

NORFOLK STORMWATER PUMP STATION 1
CITY OF NORFOLK, VIRGINIA
COVER SHEET

JOB NO.
33987.03

SHEET NO.
C-001

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R:\10830887-NORFOLK-DPW_ASC037-108_P51_MOTOR_REPLACEMENTDWGSheetCD34452C-C-001-COV(R.dwg) [Plotted on 2/2/2016 9:15 AM] by Michael Hart

PROJECT DESCRIPTION

PUMP STATION # 1 MOTOR REPLACEMENT

THIS PROJECT INCLUDES THE REPLACEMENT OF EXISTING ELECTRIC MOTORS ON ALL 3 STORM WATER PUMPS CURRENTLY LOCATED IN STORM WATER PUMP STATION NUMBER 1 ON BOUSH STREET IN DOWNTOWN NORFOLK. ALSO INCLUDED WITH THIS PROJECT IS INSTALLATION OF NEW REDUCED VOLTAGE AUTOTRANSFORMER MOTOR STARTERS. THESE STARTERS WILL REPLACE EXISTING SOFT STARTERS WHICH HAVE REACHED THE END OF THEIR USEFUL LIFE. SOME COMPONENTS IN THE EXISTING ELECTRICAL CABINETS WHICH CURRENTLY HOUSE SOFT STARTERS WILL BE REUSED SUCH AS THE MAIN BREAKER AND FUSED DISCONNECTS. THE NEW STARTERS WILL BE LOCATED IN THE EXISTING PUMP ROOM. MODIFICATIONS TO THE VENTILATION SYSTEM WILL ALSO BE REQUIRED TO HANDLE ADDITIONAL AIR FLOW REQUIREMENTS.

PROJECT NOTES

- THE CONTRACTOR WILL BE REQUIRED TO KEEP THE FACILITY OPERATIONAL AT ALL TIMES EXCEPT DURING TIMES WHEN POWER OUTAGE WILL BE SCHEDULED. THERE SHALL BE NO MORE THEN 3 SCHEDULED POWER OUTAGES OVER THE COURSE OF CONSTRUCTION. NO POWER OUTAGE SHALL LAST FOR MORE THAN 8 HOURS. BYPASS PUMPING SHALL BE PROVIDED WHICH PROVIDES TEMPORARY CAPACITY OF 30,000 GPM.
- THE TEMPORARY BYPASS PUMP SHALL BE LOCATED ADJACENT TO THE EXISTING STORM WATER PUMP STATION WITH THE SUCTION LINE IN THE INFLUENT BOX CULVERT. ONE LANE OF BOUSH STREET WILL BE ALLOWED TO BE CLOSED DURING BYPASS PUMPING OPERATION BETWEEN 9AM AND 3PM. DISCHARGE PIPING SHALL BE ORIENTED SO AS NOT TO DAMAGE ANY EXISTING PROPERTY IN THE AREA WHERE WATER IS TO BE DISCHARGED.
- ONLY 1 PUMP/MOTOR ASSEMBLY WILL BE ALLOWED TO BE TAKEN OUT OF SERVICE PER 8 HOUR SHUT DOWN. EACH NEW MOTOR/STARTER SHALL BE RUN FOR AT LEAST 4 HOURS BEFORE THE NEXT MOTOR CAN BE REMOVED. EACH 4 HOUR RUN CYCLE SHALL INCLUDE AT LEAST 12 PUMP START SEQUENCES.

GENERAL

- ALL CONSTRUCTION METHODS AND MATERIALS SHALL CONFORM WITH THESE DRAWINGS, PROJECT SPECIFICATIONS, AND WITH ALL CURRENT APPLICABLE CODES AND THE LATEST REVISIONS OF THE FOLLOWING REFERENCE DOCUMENTS:
 - VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT) ROAD AND BRIDGE SPECIFICATIONS
 - VDOT ROAD AND BRIDGE STANDARDS
 - MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD)
 - VIRGINIA WORK AREA PROTECTION MANUAL
 - VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (VESCH)
 - CITY OF NORFOLK DEPARTMENT OF UTILITIES CONSTRUCTION SPECIFICATIONS AND STANDARDS
- ALL CONSTRUCTION METHODS AND MATERIALS SHALL CONFORM WITH THE PROJECT PLANS AND TECHNICAL SPECIFICATIONS AND CURRENT STANDARDS OF THE CITY OF NORFOLK, VA. DEPARTMENT OF PUBLIC WORKS DESIGN DIVISION SET FORTH IN THEIR NORFOLK CITY DESIGN STANDARDS (NCDS) AND RIGHT OF WAY(ROW) EXCAVATION & RESTORATION MANUAL. HRPDC 4TH EDITION AND THE CURRENT DEPARTMENT OF TRANSPORTATION (VDOT) ROAD AND BRIDGE SPECIFICATIONS AND STANDARDS SHALL GOVERN FOR STANDARDS AND SPECIFICATION NOT ADDRESSED BY THE AFOREMENTIONED REFERENCES. REFERENCE TO VDOT SHALL MEAN THE CURRENT STANDARDS AND/OR SPECIFICATIONS OF VDOT.
- CONTRACTOR SHALL MAKE ANY NECESSARY ADJUSTMENTS TO ALL UTILITY SPLICE BOXES, JUNCTION BOXES, METER BOXES, ELECTRICAL SPLICE BOXES, MANHOLES, CLEANOUTS, AND OTHER ITEMS TO MATCH FINISHED GRADE.
- FOR WORK IN THE CITY OF NORFOLK RIGHT-OF-WAY, CONTACT THE FOLLOWING 48 HOURS IN ADVANCE:

RIGHT OF WAY DIVISION: 664-7306

DRAINAGE: 823-4000

LANDSCAPING: 441-2435

DEPARTMENT OF UTILITIES: 823-1042 (5 DAYS IN ADVANCE)
- THE CONTRACTOR SHALL, AT ALL TIMES, COMPLY WITH ALL OSHA AND STATE SAFETY ORDERS
- THE CONTRACTOR SHALL OBTAIN ALL APPLICABLE PERMITS AND LICENSES AND KEEP COPIES OF THE SAME ON SITE DURING CONSTRUCTION.
- THE CONTRACTOR SHALL CHECK ALL DIMENSIONS. ANY DISCREPANCIES FOUND SHALL BE CALLED TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE AND BE RESOLVED BEFORE PROCEEDING WITH ANY WORK
- ALL INFORMATION SHOWN ON THESE DRAWINGS RELATIVE TO EXISTING CONDITIONS IS GIVEN AS THE BEST PRESENT KNOWLEDGE, BUT WITHOUT GUARANTEE OF ACCURACY. THE CONTRACTOR SHALL REPORT IMMEDIATELY TO THE ENGINEER ANY CONDITIONS CONFLICTING WITH THE DRAWINGS. FIELD MODIFICATIONS TO THE DRAWINGS SHALL NOT BE MADE WITHOUT THE CONSENT OF THE ENGINEER.
- THE CONTRACTOR SHALL MAINTAIN A CLEAN WORK SITE, FREE FROM TRASH AND DEBRIS
- THE CONTRACTOR SHALL KEEP AND MAINTAIN A SET OF PROJECT PLANS AND SPECIFICATIONS ON THE SITE AT ALL TIMES.
- NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER THESE GENERAL NOTES.
- DIMENSIONS TAKE PRECEDENCE OVER SCALE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING WITH MATCHING MATERIALS ANY PAVEMENT, DRIVEWAY, WALKS, CURBS, TRAFFIC SIGNAL DEVICES, PAVEMENT MARKINGS, ETC. THAT MAY BE CUT, OR THAT ARE DAMAGED DURING CONSTRUCTION AT HIS OWN EXPENSE.
- ALL RIM ELEVATIONS SHOWN ON PLANS ARE APPROXIMATE ONLY AND SHALL BE ADJUSTED TO MATCH THE FINISHED GRADE.
- THE CONSTRUCTION SITE, ADJACENT AREAS, AND RIGHT-OF-WAYS SHALL BE KEPT CLEAN AND CLEAR OF CONSTRUCTION DEBRIS AT ALL TIMES.
- DETAILED STAMPED DRAWINGS FOR SHORING AND SCAFFOLDING WILL BE REQUIRED AS PART OF THE RIGHT-OF-WAY PERMIT PROCESS.
- RIGHT-OF-WAY EXCAVATION PERMITS ARE REQUIRED TO PERFORM EXCAVATION WORK, SEWER AND WATER MAIN INSTALLATION, AND ALL APPURTENANCES. PLEASE CONTACT THE DIVISION OF RIGHT-OF-WAY AT 664-7306 OR AT WWW.NORFOLK.GOV/PUBLICWORKS/ROW.
- WHEN THE CONTRACTORS WORK REQUIRES THE SAWCUTTING AND/OR PARTIAL DEMOLITION AND/OR REMOVAL OF ANY SECTION OF AN EXISTING APRON OR SIDEWALK. THE CONTRACTOR WILL BE REQUIRED TO REMOVE SAID EXISTING APRON OR SIDEWALK AND REPLACE IT WITH A NEW MONOLITHIC APRON OR SIDEWALK. SIDEWALK SHALL BE REMOVED TO THE NEAREST JOINT. ALL CONCRETE IS TO BE SAW CUT. NO PATCHING WILL BE ALLOWED. COMMERCIAL APRONS SHALL BE REPLACED WITH AN APPROVED COMMERCIAL APRON. RESIDENTIAL APRONS SHALL BE REPLACED WITH AN APPROVED RESIDENTIAL APRON (HS-207). SIDEWALKS SHALL BE REPLACED WITH AN APPROVED SIDEWALK DETAIL. CONTACT THE DIVISION OF RIGHT-OF-WAY FOR APPROVAL 664-7306. (ORDINANCE NO: 40.778)
- WHEN A NEW APRON AND/OR SIDEWALK ARE INSTALLED, ALL NEW OR EXISTING UTILITY STRUCTURES SHALL BE INSTALLED AND/OR RELOCATED OUTSIDE THE AREA OF THE NEW APRON AND/OR SIDEWALK. A PERMIT AND INSPECTION ARE REQUIRED.
- AS PART OF THE CONTRACTOR'S PERMIT APPLICATION TO WORK IN THE RIGHT-OF-WAY, THE CONTRACTOR MUST SUBMIT A MAP IDENTIFYING THE PROJECTS STORAGE AND LAY DOWN AREA. THE CITY DOES NOT ALLOW STORAGE, STAGING OR LAY DOWN AREAS WITHIN THE RIGHT OF WAY. CONTRACTORS ARE ENCOURAGED TO MAKE ARRANGEMENTS TO STORE MATERIALS AND LAY DOWN ON PRIVATE PROPERTY OR THEY MUST BE STORED WITHIN CONSTRUCTION SITE.
- ALL TEMPORARY BULK WASTE CONTAINERS PLACED IN THE RIGHT OF WAY REQUIRE A PERMIT FROM THE DIVISION OF RIGHT-OF-WAY (664-7306).
- ANY EXCAVATION IN THE ROADWAY WITH A TEMPORARY STONE(21A) RESTORATION WILL BE REQUIRED TO HAVE BASE COURSE ASPHALT IN PLACE WITHIN 30 DAYS.
- ALL MISS UTILITY MARKINGS IN THE RIGHT-OF-WAY ARE REQUIRED TO BE ERADICATED AT THE COMPLETION OF THE PROJECT.
- CITY OF NORFOLK FLOOD CERTIFICATION: THE PROPERTY SHOWN HEREON APPEARS TO FALL WITHIN FLOOD ZONE AE. ACCORDING TO F.E.M.A.'S FLOOD INSURANCE RATE MAP (F.I.R.M.) FOR THE CITY OF NORFOLK, VIRGINIA. MAP NUMBER 5101040130G, MAP REVISED: DECEMBER 16, 2014.
- THE CONTRACTOR WILL BE REQUIRED TO POST A CASH, CHECK, OR SURETY BOND OR LETTER OF CREDIT TO EXCAVATE IN THE RIGHT OF WAY.
- FULL CURB TO CURB RESURFACING MAY BE REQUIRED IF ROADWAY PORTION IS CUT WITHIN THE FIRST 5 YEARS AFTER RESURFACING.

DEMOLITION

- CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL OF ALL THE REMOVED/DEMOLISHED MATERIAL FROM THE PROJECT SITE AND DISPOSE OF THE SAME IN A LEGAL MANNER AND/OR DELIVER TO THE CITY THOSE ITEMS SO DESIGNATED.
- CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL, REPLACEMENT AND TEMPORARY RELOCATION OF EXISTING SIGNS.

UTILITIES

- PRIOR TO EXCAVATION, THE CONTRACTOR SHALL ASSUME THE RESPONSIBILITY OF LOCATING ANY AND ALL UNDERGROUND UTILITIES (PUBLIC OR PRIVATE) THAT MAY EXIST OR CROSS THROUGH THE AREA OF CONSTRUCTION WHETHER OR NOT THEY ARE SHOWN ON THESE PLANS BEFORE DIGGING, TO AVOID THE UTILITIES, THE CONTRACTOR SHALL CALL "MISS UTILITY OF VIRGINIA" AT "811". THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING, AT HIS SOLE EXPENSE, ANY EXISTING UTILITIES DAMAGED DURING CONSTRUCTION.
- THIS PLAN DOES NOT GUARANTEE THE EXISTENCE, NON-EXISTENCE, SIZE, TYPE, LOCATION, ALIGNMENT OR DEPTH OF ANY OR ALL UNDERGROUND UTILITIES OR OTHER FACILITIES. WHERE SURFACE FEATURES (MANHOLES, CATCH BASINS, VALVES, ETC.) ARE UNAVAILABLE OR INCONCLUSIVE, INFORMATION SHOWN MAY BE FROM UTILITY OWNER'S RECORDS AND/OR ELECTRONIC LINE TRACING, THE RELIABILITY OF WHICH IS UNCERTAIN. THE CONTRACTOR SHALL PERFORM WHATEVER TEST EXCAVATION OR OTHER INVESTIGATION IS NECESSARY TO VERIFY TIE-IN INVERTS, LOCATIONS AND CLEARANCES, AND SHALL REPORT IMMEDIATELY ANY DISCREPANCIES TO TIMMONS GROUP AT (757) 213-6679. UTILITY COMPANIES SHALL BE NOTIFIED 48 HOURS IN ADVANCE OF ANY EXCAVATION IN THE PROXIMITY OF THEIR UTILITIES.
- CONTRACTOR SHALL CONFORM TO THE "OVERHEAD HIGH VOLTAGE LINE SAFETY ACT" (EFFECTIVE JULY 1, 1989) AND SHALL CONTACT THE NECESSARY AUTHORITIES PRIOR TO START OF CONSTRUCTION.
- STATE LAW MANDATES THE NOTIFICATION OF UTILITY OWNERS 48 HOURS IN ADVANCE OF EXCAVATION. FOR LOCATION OF UTILITIES CALL:

UTILITY OWNER CONTACT	PHONE NUMBER
DOMINION VIRGINIA POWER (GAYLENE W. WATSON)	(757) 393-3824
VERIZON COMMUNICATIONS (CARLTON HENERY)	(757) 875-2541
COX COMMUNICATIONS (DEMETRIUS IDLETT)	(757) 435-5245
VIRGINIA NATURAL GAS (JOSEPH SIMONS)	(757) 466-5525
HAMPTON ROADS SANITATION DISTRICT	(757) 460-2261
CITY OF NORFOLK DEPT. OF UTILITIES (MIKE GILLIKIN)	(757) 823-1042
- PROPOSED CITY RIGHT-OF-WAY AND CITY UTILITY EASEMENT WATER AND SEWER WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE CITY OF NORFOLK DEPARTMENT OF UTILITIES STANDARD SPECIFICATIONS, THE HAMPTON ROADS PLANNING DISTRICT COMMISSION REGIONAL STANDARDS, AND THE LATEST EDITION OF THE VIRGINIA DEPARTMENT OF HEALTH REGULATIONS.
- THE UTILITIES FIELD ENGINEERING OFFICE SHALL BE CONTACTED AT 823-1042 FIVE (5) DAYS PRIOR TO START OF WORK TO SCHEDULE AN INSPECTOR AND PRECONSTRUCTION CONFERENCE. APPROVED SUBMITTALS REQUIRED ON ALL INSPECTED MATERIALS.
- WATER METER SETTINGS AND FIRE SERVICE DETECTOR CHECK INSTALLATIONS SHALL BE PERFORMED BY CITY FORCES AT THE OWNER'S EXPENSE.
- WATER SERVICE ABANDONMENT SHALL BE PERFORMED BY CITY FORCES. CALL UTILITIES WATER DISTRIBUTIONS AT 823-1042 TO COORDINATE.
- THE CONTRACTOR SHALL CONFORM TO ALL REQUIREMENTS OF THE "CITY OF NORFOLK TREE ORDINANCE" (EFFECTIVE JANUARY 15, 1996) AND THE NORFOLK'S ARBORICULTURAL SPECIFICATIONS AND STANDARDS OF PRACTICE MANUAL.
- PROPOSED FIRE HYDRANT PIPING TO BE 6" DUCTILE IRON PIPE CLASS 52 MINIMUM WITH MECHANICAL RESTRAINED JOINTS AND FIRE HYDRANT VALVES RODDED TO SERVICE TEES. FIRE HYDRANT VALVES LOCATED NO GREATER THAT 3 LINEAR FEET FROM SERVICE TEES.
- LOCATION AND DEPTH OF ALL PUBLIC UTILITIES SHALL BE FIELD VERIFIED BY DEVELOPERS CONTRACTOR WITH A NORFOLK DEPARTMENT OF UTILITIES INSPECTOR PRESENT. CONTRACTOR SHALL CONTACT THE UTILITIES FIELD ENGINEERS OFFICE, (TEL: 823-1042) AT LEAST 72 HOURS PRIOR TO EXCAVATION TO ARRANGE FOR A NORFOLK DEPARTMENT OF UTILITIES INSPECTOR TO BE PRESENT.
- STAKEOUTS FOR PROPOSED WATER AND SEWER LINES SHALL BE PERFORMED BY A VIRGINIA LICENSED SURVEYOR. WRITTEN CUT SHEETS SHALL BE PROVIDED TO THE UTILITIES FIELD ENGINEERING OFFICE FIVE (5) DAYS PRIOR TO COMMENCEMENT OF UTILITY WORK."

CONSTRUCTION

- SUBMITTALS ON MATERIALS FOR THIS PROJECT SHALL BE PROVIDED TO THE ENGINEER FOR APPROVAL PRIOR TO ORDERING MATERIALS AND BEGINNING CONSTRUCTION.
- NOT USED
- NOT USED
- ALL UTILITIES SURVEYED FOR THIS PROJECT ARE SHOWN ON THESE PLANS SCHEMATICALLY IN THEIR APPROXIMATE LOCATIONS. THESE UTILITIES INCLUDE: ELECTRIC, WATER, SEWER, NATURAL GAS AND FIBER OPTIC COMMUNICATION. HOWEVER, UTILITIES IN THE AREA MAY REQUIRE ADJUSTMENTS IF EXPOSED DURING CONSTRUCTION. THE CONTRACTOR SHALL COORDINATE THE FINAL LOCATIONS OF THESE UTILITIES IN THE FIELD WITH THE UTILITY COMPANIES.
- NOT USED
- THE CONTRACTOR SHALL PROVIDE AND PAY FOR ALL CONSTRUCTION SURVEYING REQUIRED.
- ALL PAVEMENT MARKINGS AND STRIPING SHALL BE THE COLOR AND PATTERN AS NOTED ON THE PLANS. PAINT SHALL CONFORM TO VDOT SPECIFICATIONS SIZE AND SHAPES SHALL CONFORM TO THE MUTCD.
- SAW CUTTING OF EXISTING CONCRETE AND ASPHALT PAVING SHALL COMPLY WITH OSHA. THE CONTRACTOR SHALL KEEP DUST TO A MINIMUM AND SHALL BE RESPONSIBLE FOR THE DAMAGE TO AND REPLACEMENT OF ADJACENT MATERIALS AND FINISHES.
- ALL STORM WATER PIPE JOINTS TO BE WRAPPED WITH A NON WOVEN FILTER CLOTH.
- NOT USED
- CONTRACTOR IS REQUIRED TO IDENTIFY THE LAY DOWN / STORAGE AREA LOCATION AND SUBMIT AN EROSION AND SEDIMENT CONTROL PLAN TO ENVIRONMENTAL SERVICES PRIOR TO WORK COMMENCING. CONTACT 664-4363 FOR INFORMATION.

DRAINAGE

- THE LOCATIONS OF ALL DRAINAGE STRUCTURES SHOWN ON THESE PLANS ARE APPROXIMATE ONLY. THE DIMENSIONS SHOWN ON THE PLANS FOR DROP INLETS AND JUNCTION BOXES ARE APPROXIMATE.
- ALL STORM SEWER PIPES, MANHOLES, AND CURB INLETS SHALL BE CLEANED OF DEBRIS AND ERODED MATERIALS AT THE LAST STAGES OF CONSTRUCTION.
- ALL STORM DRAINAGE SYSTEM MEASURES SHALL BE COMPLETED AS SOON AS FEASIBLE IN THE CONSTRUCTION SCHEDULE
- TEMPORARY DRAINAGE DURING CONSTRUCTION SHALL BE PROVIDED BY THE CONTRACTOR TO RELIEVE AND PREVENT FLOODING IN AREAS THAT MAY CAUSE DAMAGE TO ROADWAYS.
- PRECAST STRUCTURES SHALL BE BUILT AND ASSEMBLED IN ACCORDANCE WITH CITY OF NORFOLK STANDARDS AND SPECIFICATIONS AND OTHER APPLICABLE STANDARDS.
- ALL NEW DRAINAGE STRUCTURES ARE TO HAVE VDOT STD. IS-1 INLET SHAPING.
- ALL STORM SEWER PIPE IN CITY OF NORFOLK RIGHT-OF-WAY SHALL BE, AT A MINIMUM, CLASS III REINFORCED CONCRETE. FOR STRENGTH, SHEET THICKNESS, OR CLASS DESIGNATION; AVAILABLE SIZES; HEIGHT OF FILL LIMITATIONS; AND METHOD OF BEDDING REQUIRED FOR A PARTICULAR HEIGHT OF COVER, SEE THE APPLICABLE VDOT ROAD AND BRIDGE STANDARDS PG-1 AND PB-1.
- CONTRACTOR IS TO INSTALL ALL UTILITIES WITHIN THE TOLERANCE REQUIRED BY THE CITY OF NORFOLK AND AS SHOWN ON THESE PLANS, SPECIFICALLY:
 - ALL STORM DRAINAGE SHALL BE INSTALLED TO WITHIN 0.10' (ONE TENTH OF A FOOT) OF THE ELEVATION SHOWN ON THE PLAN, OR AS SPECIFIED IN WRITING BY THE CITY.
 - MINIMUM STORM SEWER SLOPE SPECIFIED ON THE PLAN ARE ABSOLUTE MINIMUM; LESSER SLOPE WILL NOT BE ACCEPTED UNLESS IN WRITING BY THE CITY.
 - CONTRACTOR TO BE RESPONSIBLE FOR ALL CORRECTION COST (I.E. PLAN, REVISION, PHYSICAL CORRECTION, ETC.) REQUIRED AS A RESULT OF INSTALLATION NOT MEETING THE REQUIREMENT TOLERANCE.



THIS DRAWING PREPARED AT THE
VIRGINIA BEACH OFFICE
KENNETH R. TURNER
No. 21260
2/11/16
PROFESSIONAL ENGINEER

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YOUR VISION ACHIEVED THROUGH OURS.

REVISION DESCRIPTION

DATE	

DATE

01/15/16

DRAWN BY

M. HART

DESIGNED BY

K. TURNER

CHECKED BY

K. TURNER

SCALE

NONE

TIMMONS GROUP

JOB NO.
33987.03

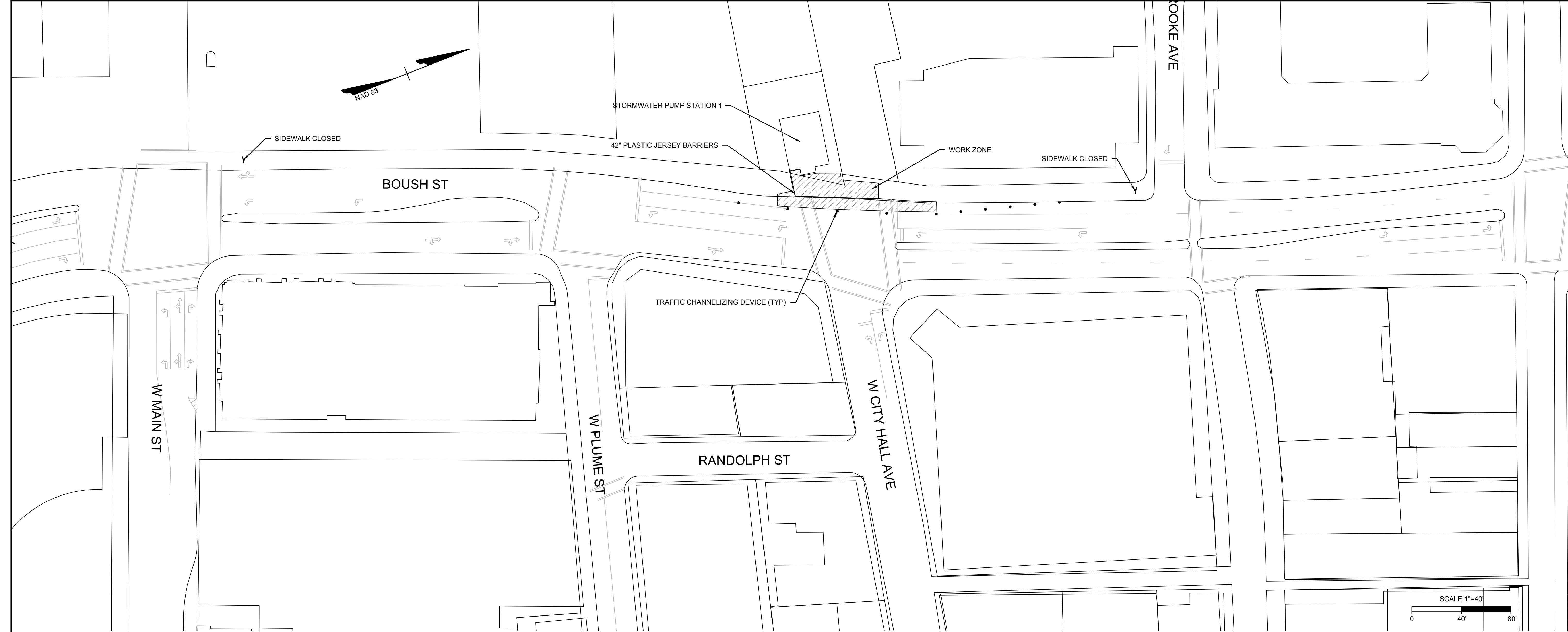
SHEET NO.
C-002

NORFOLK STORMWATER PUMP STATION 1
CITY OF NORFOLK, VIRGINIA

NOTES

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- NOTES:
1. CONTRACTOR TO PROVIDE 42" WATER FILLED JERSEY BARRIERS AROUND BYPASS PUMP AND OPEN GRATING.
 2. LANE CLOSURE SHALL ONLY BE PERMITTED BETWEEN 9AM - 3PM MONDAY THROUGH FRIDAY.
 3. SIDEWALK AND LANE ON BOUSH STREET MUST BE OPEN AND ACCESSIBLE FOR CARIBFEST PARADE (8/20), GRAND ILLUMINATION PARADE (11/19), THE HARBOR LIGHTS 5K AND HALF MARATHON (11/18-11/20), AND ANY EVENTS AS DETERMINED BY PUBLIC WORKS, RIGHT OF WAY MANAGEMENT DIVISION AS A CONDITION OF THEIR PERMIT.

Page 6H-38

April 2015

Typical Traffic Control
Outside Lane Closure Operation on a Four-Lane Roadway
(Figure TTC-16.1)

NOTES

- Standard:
1. On divided highways having a median wider than 8', right and left sign assemblies shall be required.
- Guidance:
2. Sign spacing should be 1300'-1500' for Limited Access highways. For all other roadways, the sign spacing should be 500'-800' where the posted speed limit is greater than 45 mph, and 350'-500' where the posted speed limit is 45 mph or less.
 3. Care should be exercised when establishing the limits of the work zone to insure maximum possible sight distance in advance of the transition, based on the posted speed limit and at least equal to or greater than the values in Table 6H-3. For Limited Access highways a minimum of 1000' is desired.
 4. All vehicles, equipment, workers, and their activities should be restricted to one side of the pavement.

Standard:

5. Taper Length (L) and Channelizing Device Spacing shall be:

Speed Limit (mph)	Taper Length (L)			
	9	10	11	12
25	95	105	115	125
30	135	150	165	180
35	185	205	225	245
40	240	270	295	320
45	405	450	495	540
50	450	500	550	600
55	495	550	605	660
60	540	600	660	720
65	585	650	715	780
70	630	700	770	840
Minimum taper lengths for Limited Access highways shall be 1000 feet.				
Shoulder Taper = 1/2 L Minimum				

Channelizing Device Spacing		
Location	Speed Limit (mph)	
	0 - 35	36 +
Transition Spacing	20'	40'
Travelway Spacing	40'	80'
Construction Access*	80'	120'

* Spacing may be increased to this distance, but shall not exceed one access per 1/4 mile.

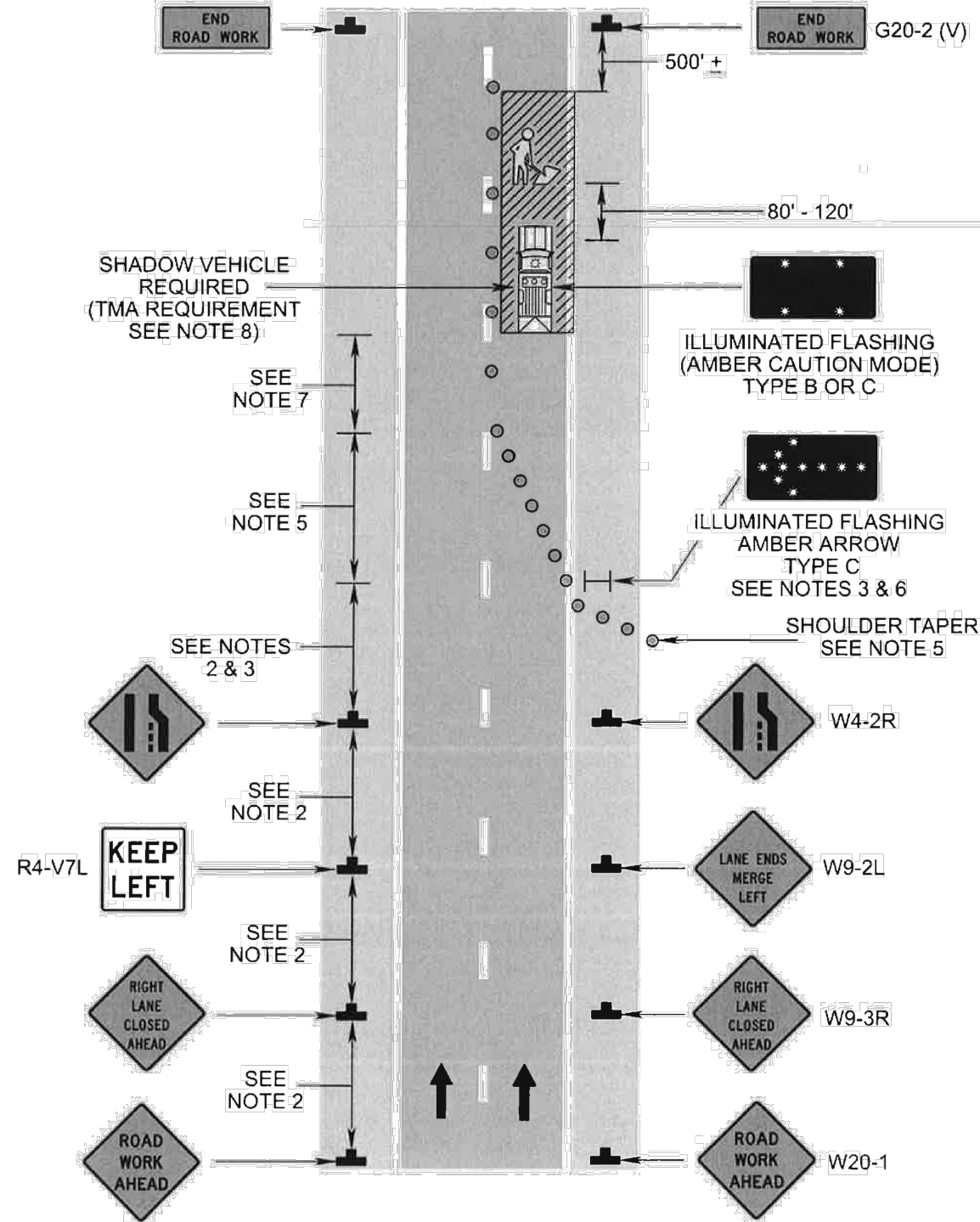
On roadways with paved shoulders having a width of 8 feet or more, channelizing devices shall be used to close the shoulder in advance of the merging taper to direct vehicular traffic to remain within the traveled way.

6. An arrow board shall be used when a lane is closed. When more than one lane is closed, a separate arrow board shall be used for each closed lane (see Figure TTC-18).
7. The buffer space length shall be shown in Table 6H-3 on Page 6H-5 for the posted speed limit.
8. A shadow vehicle with either a Type B or C arrow board operating in the caution mode, or at least one high intensity amber rotating, flashing, or oscillating light shall be parked 80'-120' in advance of the first work crew. When the posted speed limit is 45 mph or greater, a truck-mounted attenuator shall be used.
9. Vehicle hazard warning signals shall not be used instead of the vehicle's high-intensity amber rotating, flashing, or oscillating lights but can be used to supplement the amber rotating, flashing, or oscillating lights.
10. When a side road intersects the highway within the TTC zone, additional TTC devices shall be placed as needed.

1: Revision 1 - 4/1/2015

Page 6H-39

Outside Lane Closure Operation on a Four-Lane Roadway
(Figure TTC-16.1)



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REVISION DESCRIPTION

DATE

01/15/16

DRAWN BY

M. HART

DESIGNED BY

K. TURNER

CHECKED BY

K. TURNER

SCALE

1" = 40'

TIMMONS GROUP

NORFOLK STORMWATER PUMP STATION 1

CITY OF NORFOLK, VIRGINIA

SITE LAYOUT

JOB NO.

33987.037

SHEET NO.

C-101

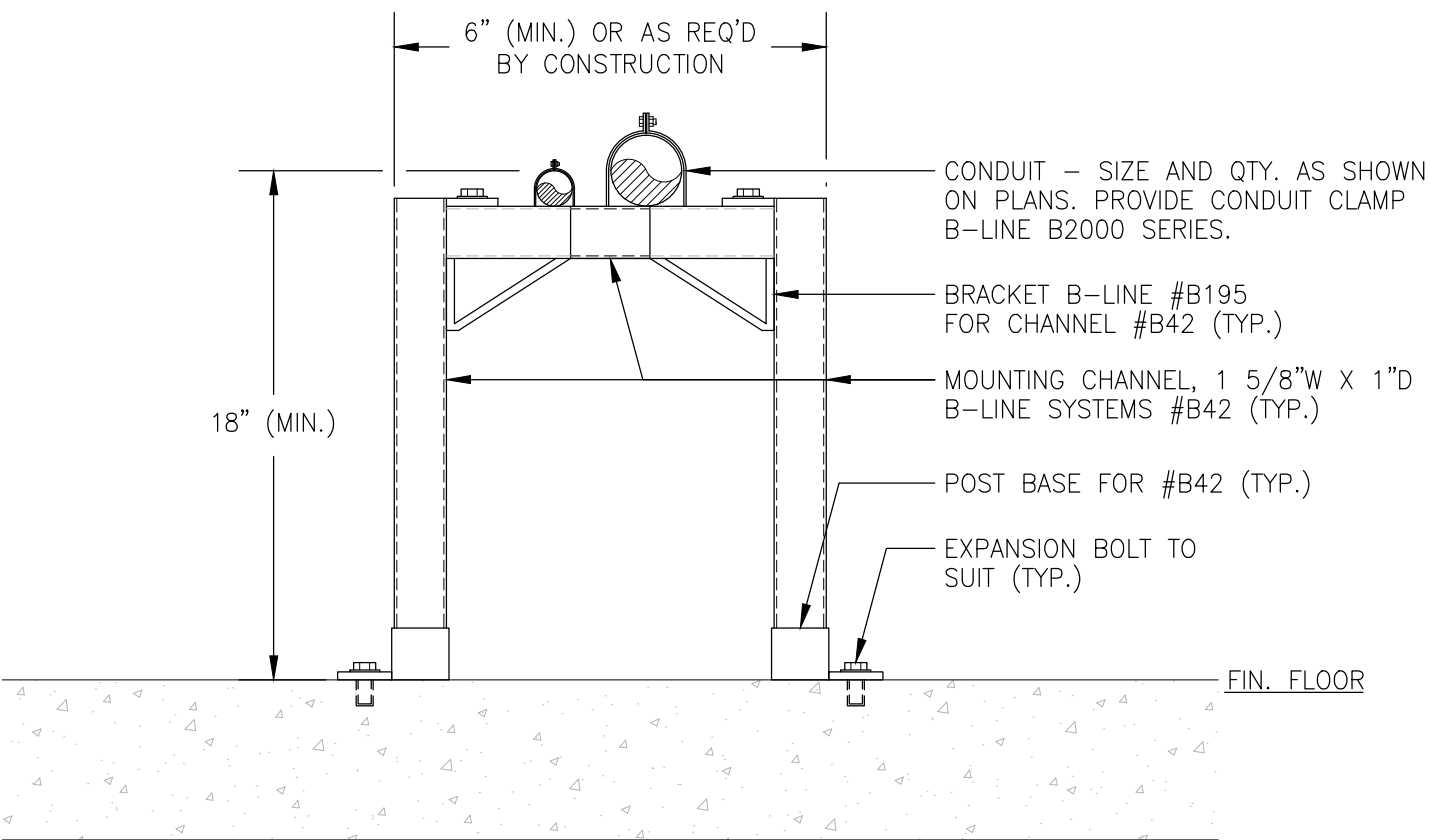
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MODS. TO EXIST. SCADA/PUMP CONTROL PANEL

- CONTRACTOR SHALL RETAIN THE SERVICES OF THE CITY SYSTEM INTEGRATOR AS PART OF THIS CONTRACT: THERMO-TROL SYSTEMS, 504 VIKING DRIVE, VIRGINIA BEACH, VA, 757-428-4646.
- THE SYSTEM INTEGRATOR SHALL BE SOLELY RESPONSIBLE FOR THE HARDWARE AND SOFTWARE MODIFICATIONS IN THE EXISTING STATION SCADA/PUMP CONTROL PANEL. NO OTHER CONTRACTORS SHALL PERFORM WORK IN THE SCADA/PUMP CONTROL PANEL. NO OTHER CONTRACTORS SHALL PERFORM WORK ASSOCIATED WITH THE SCADA/PUMP CONTROL PANEL WITHOUT PERMISSION AND COORDINATION WITH THE CITY'S DESIGNATED SYSTEM INTEGRATOR.
- THE CITY'S DESIGNATED SYSTEM INTEGRATOR SHALL MODIFY THE EXISTING SCADA/PUMP CONTROL PANEL AS FOLLOWS:
 - REMOVE EXIST. I/O POINTS AND WIRING BETWEEN THE SCADA/PUMP CONTROL PANEL AND MCC ASSOCIATED WITH THE DEMOLISHED SOFT-START STARTER.
 - CONNECT AND INTEGRATE THE EXIST. DOOR MOUNTED INDICATOR LIGHTS, HOA SWITCHES AND ELAPSED TIME METER ON THE MCC STARTER SECTION TO THE NEW RVAT STARTERS LOCATED IN THE MOTOR ROOM.
 - PROVIDE NEW I/O POINTS FOR THE (3) NEW RVAT AND (3) NEW MOTORS AS FOLLOWS:
 - PUMP START/STOP COMMAND
 - PUMP STARTER FAIL
 - PUMP MOTOR OVERTEMPERATURE
 - PUMP MOTOR VIBRATION
 - PUMP RUN STATUS
 - OVERLOAD HEATER
 - OTHER OWNER DEFINED I/O POINTS
- ALL NEW SIGNAL I/O WIRING SHALL BE PULLED TO THE SCADA/PUMP CONTROL PANEL, LANDED, AND LABELED ACCORDINGLY. ALL SIGNAL I/O WIRING SHALL BE TERMINATED BY THE CITY'S DESIGNATED SYSTEM INTEGRATOR. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ALL WIRING AND CONDUIT ASSOCIATED WITH THE CONTROL AND INSTRUMENTATION SIGNALS INTEGRATED WITH THE SCADA/PUMP CONTROL PANEL.
- THE RESPECTIVE CONTRACTOR AND EQUIPMENT MANUFACTURER'S ENGINEER SHALL BE RESPONSIBLE FOR COORDINATING WITH THE CITY'S DESIGNATED SYSTEM INTEGRATOR AND SCADA SYSTEM CONTRACTOR FOR TRAINING, INSTALLATION, INTEGRATION, AND START-UP OF THEIR RESPECTIVE EQUIPMENT AND DEVICES. CONTACT THE CITY OF NORFOLK STORM WATER PUMP STATION DIVISION AT 1-757-623-4000.
- THE CITY'S DESIGNATED SCADA/PUMP CONTROL PANEL SYSTEM INTEGRATOR SHALL DESIGN AND ASSIST WITH THE INSTALLATION OF THE NEW RVAT STARTERS, I/O AND CONTROL POINTS.
- THE EXISTING SYSTEM COMMUNICATES WITH THE EXISTING CITY OF NORFOLK ALC WEB-BASED SYSTEM THROUGH THE ALC LGE SERIES ROUTER AND THE COX CABLE STATIC TCP/IP ETHERNET CONNECTION AT THE EXISTING SCADA/PUMP CONTROL PANEL.
- THE EXISTING SCADA/PUMP CONTROL PANEL MAIN CONTROLLER IS AN ALC ME812U CONTROLLER. THE NEW AND ADDITIONAL I/O POINTS MAY REQUIRE THE ADDITION OF AN ALC EXPANSION BOARD OR THE REPLACEMENT OF THE PRIMARY CONTROLLER AND EXPANSION CARD AS REQUIRED. THIS SYSTEM MONITORS AND AGGREGATES THE CURRENT I/O POINTS AT THE STATION AND SHALL BE UPDATED TO INCLUDE THE NEW AND ADDITIONAL I/O POINTS AS WELL AS MAINTAINING THE PRESENT PROCESS STATUS POINTS AND LOCAL AND REMOTE ALARMS. THE NEW AND ADDITIONAL INFORMATION SHALL BE COMMUNICATED WITH THE CURRENT DATA TO THE EXISTING WEB-BASED SERVER.
- THE EXISTING SCADA/PUMP CONTROL PANEL IMPROVEMENTS SHALL INCLUDE THE FOLLOWING COMPONENTS TO ACHIEVE CONFIGURATION REQUIREMENTS SHOWN ON THE DRAWINGS:
 - ADDITION OF EXPANSION MODULES.
 - INTERPOSING RELAYS TO INTEGRATE THE NEW I/O POINTS.
 - TERMINAL STRIPS, AS REQUIRED.
 - ASSOCIATED CABLES, WIRES AND LABELING, AS REQUIRED
 - PROVIDE THE FOLLOWING AS SPARES TO THE CITY:
 - ONE (1) ME812U CONTROLLER
 - ONE (1) MEX880 EXPANSION BOARD (OR A SPARE OF THE ACTUAL EXPANSION BOARD USED FOR THIS PROJECT)
- THE SCADA/PUMP CONTROL PANEL SHALL MONITOR ALL PROCESS SIGNALS AND ALARM POINTS AS INDICATED IN THE CONTRACT DRAWINGS. THESE PROCESS SIGNALS AND ALARM POINTS SHALL BE TRANSMITTED VIA THE EXISTING COX CABLE STATIC TCP/IP ETHERNET CONNECTION TO THE CITY'S MAIN COMPUTER CENTER AND IT DEPARTMENT, FOR MONITORING AND HISTORICAL DATA COLLECTION PURPOSES.

GENERAL NOTES

- ALL MOTOR CONTROL CIRCUITS AND WIRING TO CONFORM TO ARTICLE 430 OF NEC.
- ALL WIRING IS TO BE RUN IN RIGID STEEL CONDUIT, UON.
- WORKING SPACE AROUND ELECTRICAL EQUIPMENT IS TO BE PROVIDED AS PER ARTICLE 110-26 OF THE NEC.
- ALL PANELS, SWITCHES, AND CIRCUITS ARE TO BE MARKED AS PER ARTICLE 110-21 OF THE NEC.
- A GROUND WIRE IS TO BE RUN TO ALL MOTORS AND OTHER ELECTRICAL DEVICES AND ALL EQUIPMENT IS TO BE GROUNDED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.
- A GROUND WIRE IS TO BE RUN IN ALL CONDUIT.
- ALL CONDUCTORS SHALL BE COPPER/STRANDED THHN/THWN.
- PROVIDE LOCK-OUT DEVICE FOR MOTOR POWER CIRCUIT BREAKER.
- ALL CONDUITS ARE TO BE RUN ON SURFACE OF BUILDING (NO CONDUIT IN WALLS OR CEILING).
- SHARED OR COMMON NEUTRAL CONDUCTORS SHALL NOT BE PERMITTED.
- PROVIDE OPERATIONS AND MAINTENANCE MANUAL IN ACCORDANCE WITH SPECIFICATIONS SECTIONS.
- ALL POWER AND CONTROL CIRCUITS SHALL BE RUN IN SEPARATE CONDUITS.
- THE CONTRACTOR SHALL OBTAIN ALL PERMITS.
- SUBMITTALS -- CONTRACTOR SHALL PROVIDE (5) COPIES OF SHOP DRAWINGS FOR ALL MAJOR EQUIPMENT TO BE FURNISHED INCLUDING MODIFICATIONS TO THE CITY'S EXIST. SCADA SYSTEM AND PCP FOR APPROVAL BY ENGINEER/OWNER.
- ALL WIRING AND EQUIPMENT IN WET WELL SHALL BE EXPLOSION PROOF, CLASS 1, DIVISION 2 TO CONFORM TO ARTICLE 500 OF THE NEC.



CONDUIT FLOOR RACK DETAIL

SCALE: NO SCALE

GENERAL DEMOLITION NOTES

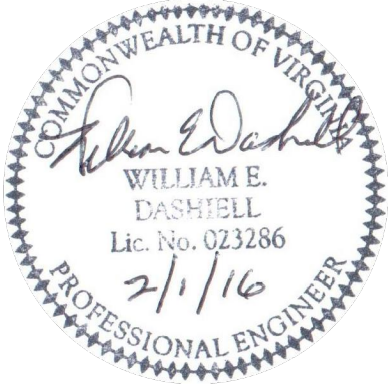
- CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO BIDDING TO IDENTIFY ALL ITEMS REQUIRED TO BE DEMOLISHED AND NEW WORK.
- CONTRACTOR SHALL REMOVE ALL EQUIPMENT SHOWN HATCHED/DOTTED LINE. ALL WIRING TO EQUIPMENT SHALL BE REMOVED, UON.
- PROVIDE ALL ELECTRICAL DEMOLITION WORK NECESSARY TO INSTALL NEW WORK. ELECTRICAL CONTRACTOR SHALL REROUTE AND RECONNECT ANY CIRCUITS THAT WILL REMAIN IN USE BUT INTERFERE WITH NEW CONSTRUCTION.
- CONTRACTOR SHALL VERIFY WITH OWNER, ITEMS TO BE SALVAGED AND TURNED OVER TO OWNER PRIOR TO START OF DEMOLITION.
- MAINTAIN CONTINUITY OF ALL EXIST. CIRCUITS TO REMAIN OR PORTIONS THEREOF AFFECTED BY NEW WORK. CONTRACTOR SHALL RECONNECT ANY EXIST. CIRCUIT TO THE REMAINING ELECTRICAL EQUIPMENT LOCATED DOWN STREAM FROM THE POINT OF INTERRUPTION.
- ALL MATERIALS REMOVED UNDER DEMOLITION AND NOT TO BE RELOCATED OR TURNED OVER TO OWNER SHALL BE REMOVED FROM SITE AND DISPOSED OF DAILY. SITE MUST REMAIN CLEAN AT ALL TIMES.
- CONTRACTOR SHALL EXERCISE CARE IN REMOVING DEMOLITION ITEMS, AND SHALL REPAIR OR REPLACE AT HIS COST, ANY DAMAGE CAUSED TO EXIST. CONSTRUCTION AND EQUIPMENT TO REMAIN.
- DRAWINGS ARE BASED ON AS-BUILT PLANS AND FIELD INVESTIGATION WITHOUT DEMOLITION. CONTRACTOR SHALL VISIT THE EXIST. BUILDING AND FAMILIARIZE HIMSELF WITH EXIST. CONDITIONS AND SHALL EXAMINE ALL RELATED DRAWINGS TO AVOID CONFLICTS.
- WHERE EQUIPMENT OR MATERIAL IS REQUIRED TO BE REMOVED, ALL ASSOCIATED WORK SUCH AS STARTERS, DISCONNECT SWITCHES, CONDUIT, WIRING, SUPPORTS, AND ACCESSORIES SHALL BE REMOVED UON.
- EXIST. ELECTRICAL EQUIPMENT NOT INDICATED ON DEMOLITION PLAN SHALL REMAIN CONNECTED FOR CONTINUED USE.
- ALL WORK TO BE COORDINATED WITH OTHER TRADES INVOLVED.
- SCHEDULE DEMOLITION WORK IN EXISTING BUILDING WITH FACILITY'S OPERATING SCHEDULE. ANY EQUIPMENT SHUT DOWN SHALL BE APPROVED BY THE OWNER'S REPRESENTATIVE TWO WEEKS PRIOR TO SHUTDOWN. THE FACILITY WILL REMAIN IN OPERATION DURING ELECTRICAL DEMOLITION AND NEW WORK.

ELECTRICAL DEMOLITION LEGEND

- EXIST. EQUIPMENT TO REMAIN
- ELECTRICAL PANELS/EQUIPMENT TO BE REMOVED
- EXIST. DUPLEX RECEPTACLE OUTLET TO REMAIN
- DEMOLITION WORK NOTE
- LIMIT OF DEMOLITION
- CURRENT TRANSFORMER/POTENTIAL TRANSFORMER
- REMOVE TERMINAL UNIT
- UNIT HEATER
- UNLESS OTHERWISE NOTED

ELECTRICAL NEW WORK LEGEND

- CONDUIT BELOW FLOOR SLAB
- EXPOSED CONDUIT
- MOTOR
- EXHAUST FAN
- ELECTRICAL PANELS
- NEW WORK NOTE
- LIMIT OF NEW WORK
- FLOAT SWITCH
- ABOVE FINISHED FLOOR
- ANALOG INPUT/ANALOG OUTPUT
- AUTOMATED LOGIC CORPORTION
- AUTOMATIC TRANSFER SWITCH
- CIRCUIT BREAKER
- DIGITAL INPUT/DIGITAL OUTPUT
- GROUND FAULT INTERRUPTER
- GROUNDING CONDUCTOR
- INTERLOCK
- NATIONAL ELECTRICAL CODE
- PUMP CONTROL PANEL
- REDUCED VOLTAGE AUTO-TRANSFORMER STARTER
- STAINLESS STEEL
- TRANSIENT VOLTAGE SUPPRESSOR
- UNLESS OTHERWISE NOTED
- WEATHERPROOF
- WATERTIGHT



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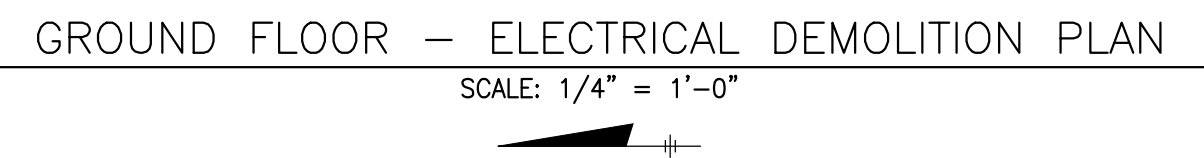
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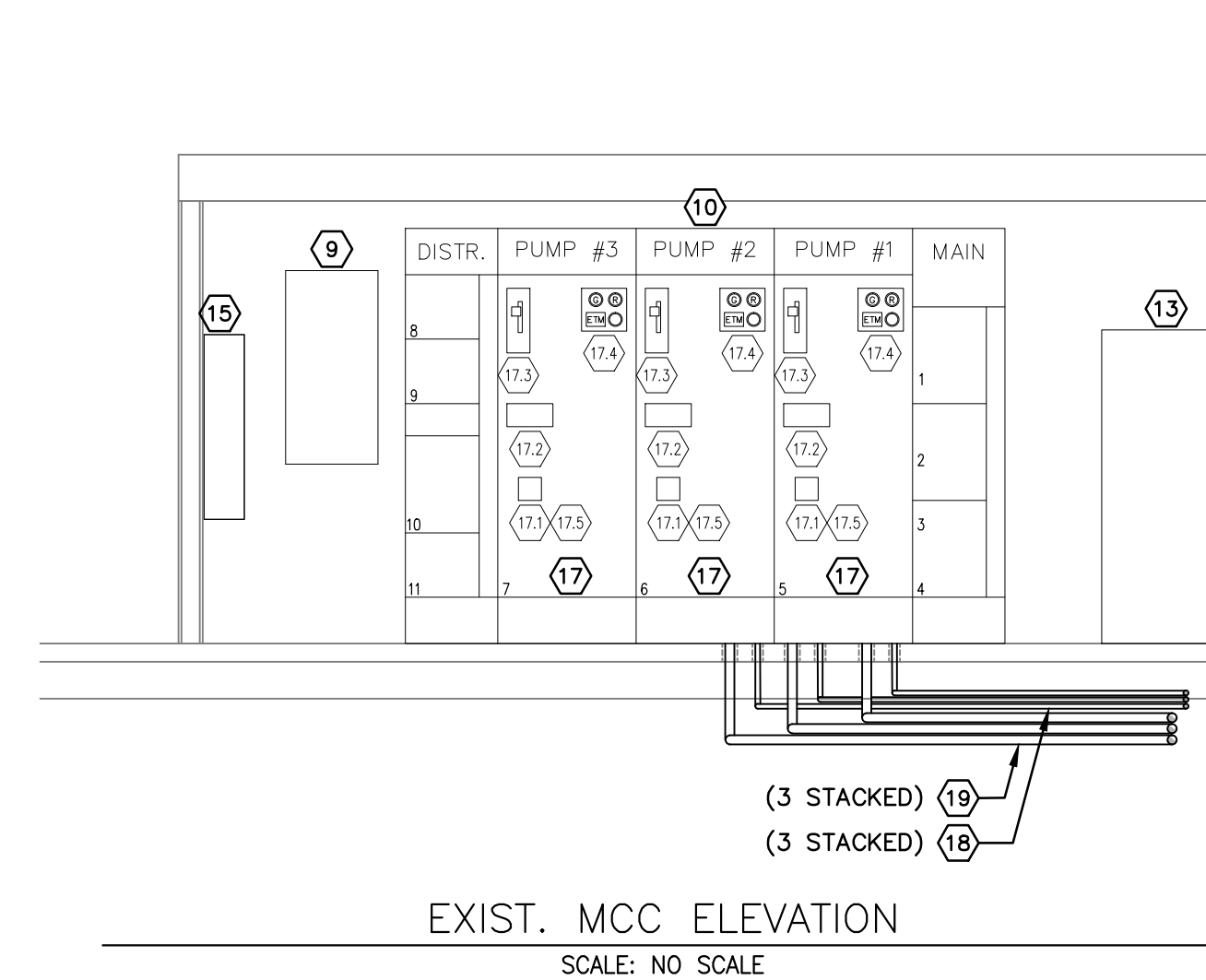
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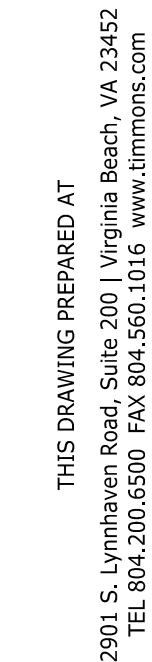


(THIS SHEET ONLY)

- | | | | |
|----|--|----|---|
| ① | EXIST. OUTSIDE LIGHTS TIMER PANEL. | 17 | EXIST. MCC MOTOR STARTER SECTION. |
| ② | EXIST. FIBER OPTICS PANEL. | | 1. REMOVE EXIST. SOFT-START STARTER, CONTACTORS, CONTROL TRANSFORMERS AND TURN OVER TO OWNER. REMOVE ALL ASSOCIATED CONTROL AND POWER WIRING. ALL UNUSED WIRING SHALL BE REMOVED. |
| ③ | EXIST. WISCONSIN BOW LIGHTS SWITCH PANEL. | | 2. POWER QUALITY METER PQM II SHALL REMAIN CONNECTED FOR CONTINUED USE. |
| ④ | EXIST. INLINE EXHAUST FAN EF-3 | | 3. 225AT/250AF BRANCH BREAKER AND FUSES SHALL REMAIN CONNECTED FOR CONTINUED USE. |
| ⑤ | EXIST. INLINE SUPPLY FAN SF-1 | | 4. DISCONNECT AND REMOVE WIRING TO HAND-OFF-AUTO SWITCH, INDICATOR LIGHTS AND ELAPSED TIME METER (ETM). RESET ETM TO "0000". |
| ⑥ | EXIST. WALL MOUNTED PROPELLER FAN EF-2. | | 5. INSTALL BLANK PLATE OVER HOLE IN DOOR LEFT BY REMOVAL OF SOFT-START STARTER KEYPAD. PLATE SHALL MATCH COLOR AND CONSTRUCTION OF EXIST. MCC. |
| ⑦ | EXIST. EMERGENCY DIESEL GENERATOR, CATERPILLAR 3406, 300KW/375KVA, 480V, 3-PHASE. | | |
| ⑧ | EXIST. PANEL "PP1", 225A-480Y/277V, 3-PHASE, 4-WIRE. | 18 | EXIST. 3/4" C WITH PUMP MOTOR ALARM WIRING. REMOVE WIRING ONLY. CONDUIT TO REMAIN. DUCT ROD AND CLEAN CONDUIT FOR FUTURE USE. |
| ⑨ | EXIST. PANEL "A", 225A-208Y/120V, 3-PHASE, 4-WIRE. | 19 | EXIST. 2 1/2" C WITH 3/4" O & GND MOTOR FEED. REMOVE WIRING ONLY. CONDUIT TO REMAIN. DUCT ROD AND CLEAN CONDUIT FOR FUTURE USE. |
| 10 | EXIST. G.E. MOTOR CONTROL CENTER (MCC). G.E. PART #29768101. | 20 | REMOVE EXIST. 3/4" AND 2 1/2" SEAL-OFF FITTINGS (ABOVE FLOOR SLAB). PROTECT CONDUIT FROM DAMAGE. |
| 11 | EXIST. DVP METER. | 21 | REMOVE EXIST. 3/4" AND 2 1/2" LIQUIDTIGHT FLEX CONDUIT AND WIRING (ABOVE FLOOR SLAB). |
| 12 | EXIST. DVP CT CABINET. | | |
| 13 | EXIST. ATS, 600A, 480V, 3-PHASE. | | |
| 14 | EXIST. SERVICE ENTRANCE ENCLOSED CIRCUIT BREAKER, 600A-480V-3P. | | |
| 15 | EXIST. LEVEL CONTROL/SCADA SYSTEM PANELS. | | |
| 16 | REMOVE EXIST. MOTOR (125HP-480V-3PH.) AND FEEDER BACK TO POINT OF ORIGINATION. TURN MOTOR OVER TO OWNER. | | |



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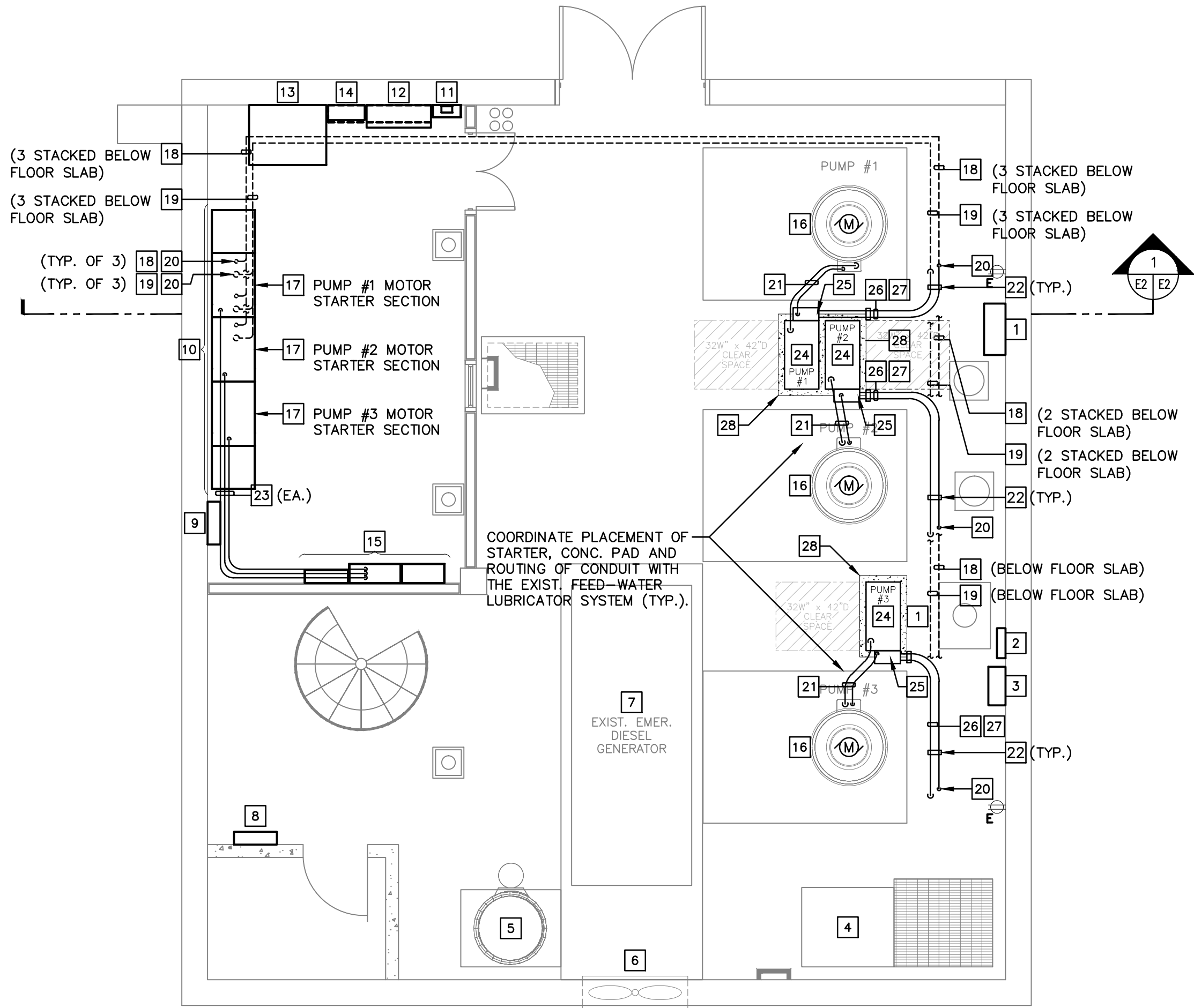
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NORFOLK STORMWATER PUMP STATION 1
CITY OF NORFOLK, VIRGINIA
ELECTRICAL DEMOLITION PLAN

JOB NO.
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GROUND FLOOR — ELECTRICAL NEW WORK PLAN

SCALE: 1/4" = 1'-0"



ELEC. NEW WORK NOTES:

(THIS SHEET ONLY)

- 1

EXIST. OUTSIDE LIGHTS TIMER PANEL.
- 2

EXIST. FIBER OPTICS PANEL.
- 3

EXIST. WISCONSIN BOW LIGHTS SWITCH PANEL.
- 4

EXIST. INLINE EXHAUST FAN EF-3
- 5

EXIST. INLINE SUPPLY FAN SF-1
- 6

EXIST. WALL MOUNTED PROPELLER FAN EF-2.
- 7

EXIST. EMERGENCY DIESEL GENERATOR, CATERPILLAR 3406, 300KW/375KVA, 480V, 3-PHASE.
- 8

EXIST. PANEL "PP1", 225A-480Y/277V, 3-PHASE, 4-WIRE.
- 9

EXIST. PANEL "A", 225A-208Y/120V, 3-PHASE, 4-WIRE.
- 10

EXIST. G.E. MOTOR CONTROL CENTER (MCC). G.E. REQ. #29768101.
- 11

EXIST. DVP METER.
- 12

EXIST. DVP CT CABINET.
- 13

EXIST. ATS, 600A, 480V, 3-PHASE.
- 14

EXIST. SERVICE ENTRANCE ENCLOSED CIRCUIT BREAKER, 600A-480V-3P.
- 15

EXIST. LEVEL CONTROL/SCADA SYSTEM PANELS.
- 16

NEW PUMP MOTORS (125HP-480V-3PH).
- 17

EXIST. MCC MOTOR STARTER SECTION.

1.

EXIST. POWER QUALITY METER PQM II SHALL REMAIN CONNECTED FOR CONTINUED USE.

2.

EXIST. 225AF/250AT BRANCH BREAKER AND FUSES CONNECT TO NEW MOTOR FEEDERS.

3.

EXIST. HAND-OFF-AUTO SWITCH, INDICATOR LIGHTS AND ELAPSED TIME METER. CONNECT TO NEW RVAT MOTOR STARTER.

4.

INSTALL BLANK PLATE OVER HOLE IN DOOR LEFT BY REMOVAL OF SOFT-START STARTER KEYPAD. PLATE SHALL MATCH COLOR AND CONSTRUCTION OF EXIST. MCC.
- 18

EXIST. 3/4" C WITH NEW MOTOR ALARM AND NEW MOTOR STARTER CONTROL AND ALARM POINTS (20#14 THHN/THWN & GND).
- 19

EXIST. 2 1/2" C WITH NEW MOTOR FEEDERS (3#4/0 THHN/THWN & 1#4 GND).
- 20

NEW 3/4" AND 2 1/2" SEAL-OFF FITTINGS (ABOVE FLOOR SLAB).
- 21

NEW LIQUIDTIGHT FLEX CONDUIT: 3/4"C W/ 4#14 THHN/THWN & GND (ALARMS), 2 1/2"C W/ 4#4/0 THHN/THWN & 1#4 GND (POWER).
- 22

NEW CONDUIT MOUNTING RACK. REFER TO SHEET E1 FOR DETAIL.
- 23

NEW 3/4"C W/ NEW RVAT AND MOTOR ALARM AND MONITORING POINTS (14#14 THHN/THWN & GND).
- 24

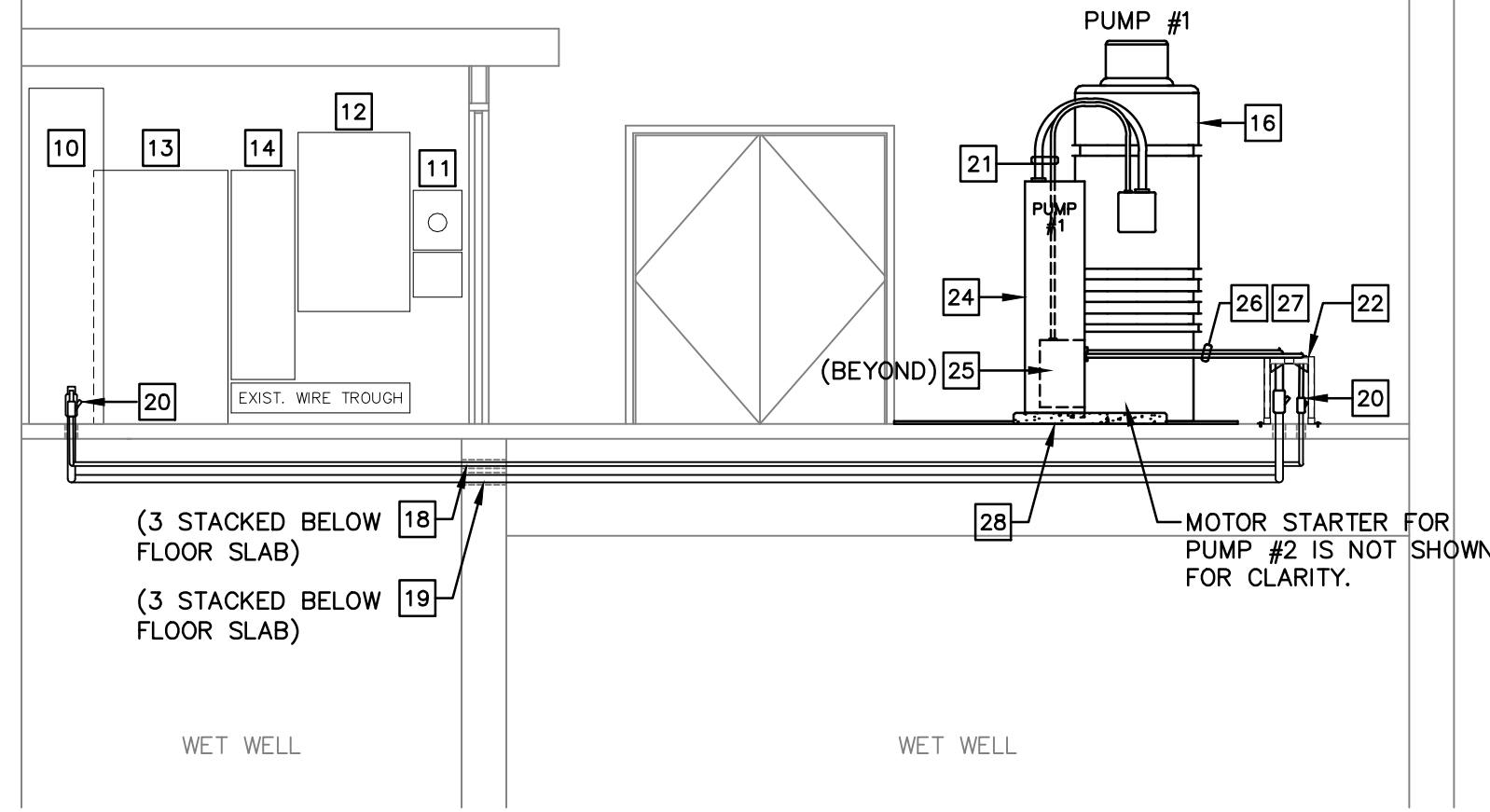
NEW REDUCED VOLTAGE AUTO-TRANSFORMER STARTER (RVAT, 50%), 125HP-480V-3PH., NEMA 12, SQ. D Q2C #36947460.
- 25

JUNCTION BOX - 12"W X 18"H X 6"D, NEMA 12.
- 26

NEW 3/4" C WITH NEW MOTOR ALARM AND NEW MOTOR STARTER CONTROL AND ALARM POINTS (20#14 THHN/THWN & GND). INSTALL ON CONDUIT RACKS ABOVE FLOOR. REFER TO DETAIL, SHEET E1. ROUTE AROUND PUMP MOTOR BASEPLATE, 18" AFF.
- 27

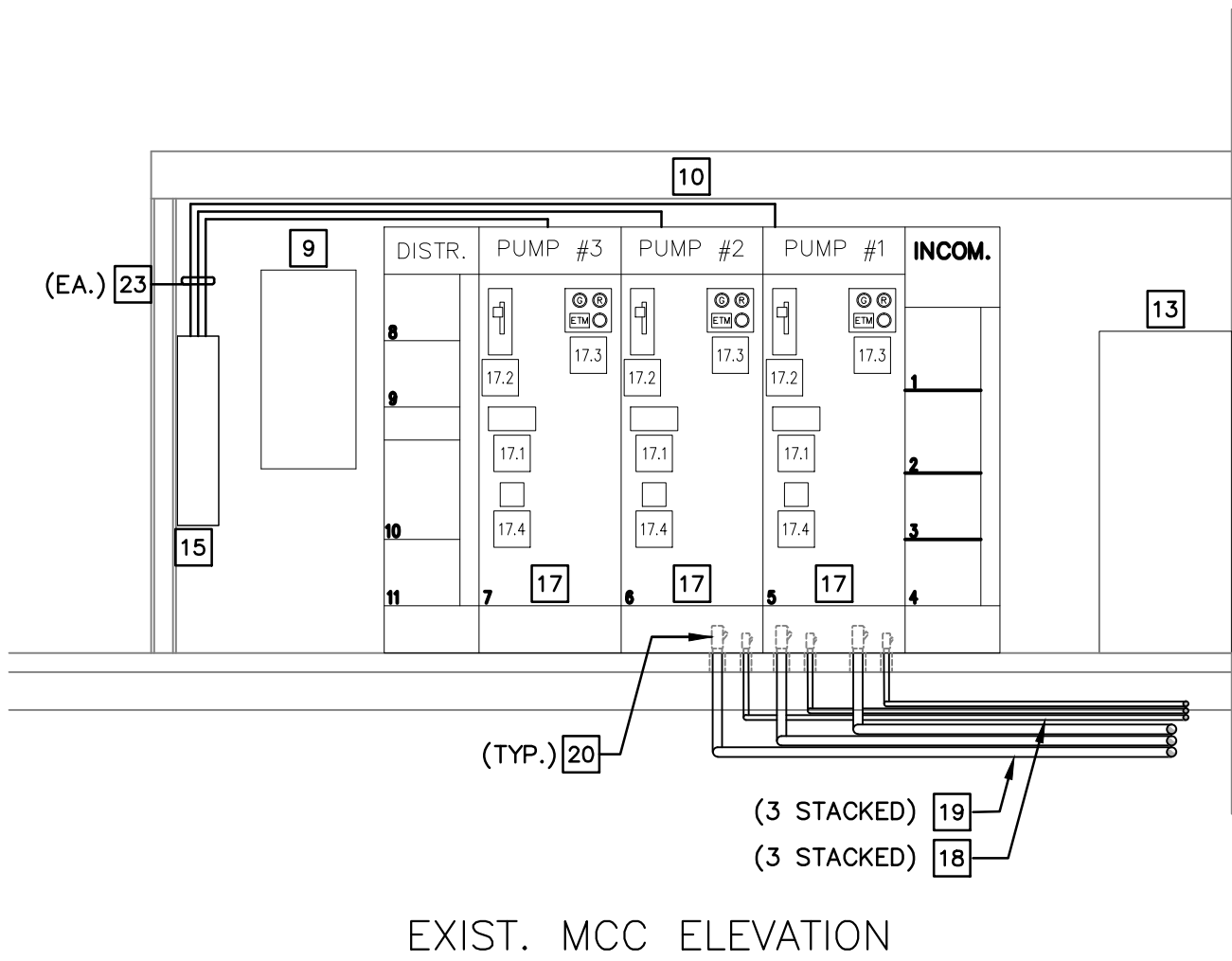
NEW 2 1/2" C WITH NEW MOTOR FEEDERS (3#4/0 THHN/THWN & 1#4 GND). INSTALL ON CONDUIT RACKS ABOVE FLOOR. REFER TO DETAIL, SHEET E1. ROUTE AROUND PUMP MOTOR BASEPLATE, 18" AFF.
- 28

NEW 3" CONCRETE HOUSEKEEPING, CLASS A3 CONCRETE. EXTEND 3" BEYOND FOOTPRINT OF NEW STARTER.



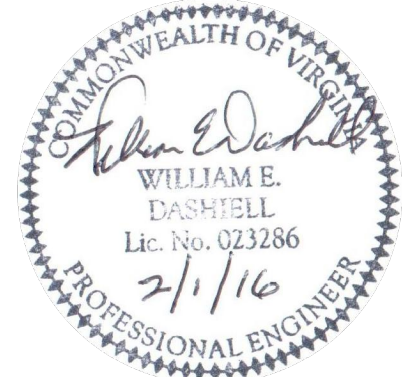
PARTIAL SECTION — ELECTRICAL NEW WORK PLAN

SCALE: 1/4" = 1'-0"



EXIST. MCC ELEVATION

SCALE: NO SCALE



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NORFOLK STORMWATER PUMP STATION 1

CITY OF NORFOLK, VIRGINIA
ELECTRICAL NEW WORK PLAN

JOB NO.

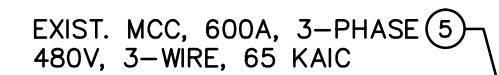
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SHEET NO.

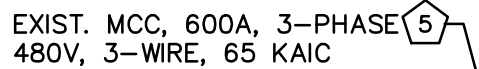
E2

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SCALE: NO SCALE



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(THIS SHEET ONLY)

- ⑨ EXIST. 225AT/250AF BRANCH BREAKER AND FUSES SHALL REMAIN CONNECTED FOR CONTINUED USE.



- 13 NEW LIQUIDTIGHT FLEX CONDUIT AND WIRING: 3/4" C W/
4#14 THHN/THWN & GND (ALARMS), 2 1/2" C W/ 4#4/0
THHN/THWN & 1#4 GND (POWER).

THE CALCULATED INRUSH CURRENT FOR THE NEW RVAT STARTER REDUCES THE FIELD MEASURED IN-RUSH CURRENT OF THE G.E. ASTAT SOFT START BY 25% (420A VS. 560A). FIELD MEASUREMENTS WERE TAKEN BETWEEN 6-22-15 TO 7-2-15.

- 17 JUNCTION BOX - 12"W X 18"H X 6"D, NEMA 12.